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10/628,249

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Weijing Chen

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EXAMINER

IBRAHIM, MOHAMED

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/628,249	<b>Applicant(s)</b> CHEN ET AL.	
	<b>Examiner</b> MOHAMED IBRAHIM	<b>Art Unit</b> 2444	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

### **DETAILED ACTION**

1. This is in response to the communications and remarks 27 July 2009. Claims 1, 8 and 18 have been amended. Claims 1-26 are presently pending for examinations.

#### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 27 August 30, 2009 has been entered.

#### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Rejections – 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 8, and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims include the following negative recitations "without using network address translation and without mapping the first IP address to the second IP address" which lacks support from the original disclosure.

***Claim Rejections – 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asano et al (Asano), U. S. Application Publication No. 2003/0185236 in view of Chin et al. (Chin), U. S. Patent No. 7277453 and further in view of Borella, U. S. Patent No. 6697354.

Regarding claim 1, Asano discloses a method for routing data packets from a subscriber device, over a broadband access link, through a first Internet protocol (IP) version 6 (IPv6) network to a second IP network, the first and second IP networks

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interfacing through a second IP network edge device (see e.g. fig. 16 and paragraph [0040-0043]).

Although Asano discloses the invention substantially as claimed, it does not explicitly disclose assigning a first IP address to the subscriber device, the first IP address associated with the first IP network; assigning a second IP address to the subscriber device based on a request routed through the first IP network from the subscriber device, the second IP address being associated with the second IP network; and forwarding addressing data packets from the subscriber's device with the first IP address and the second IP address, wherein the first IP address is compliant with a first protocol implemented by the first IP network, and wherein the second IP address is compliant with a second protocol distinct from the first protocol implemented by the second IP network.

Chin teaches inter private network communications between IPV4 hosts using IPV6 wherein assigning a first IP address to the subscriber device, the first IP address associated with the first IP network; assigning a second IP address to the subscriber device based on a request routed through the first IP network from the subscriber device, the second IP address being associated with the second IP network (see Chin fig. 3 and col. 6 lines 55-67; a private host is assigned local IPV4 address and a global IPV6 address for communication facilitations between two separate networks); and forwarding addressing data packets from the subscriber's device with the first IP address and the second IP address, wherein the first IP address is compliant with a first protocol implemented by the first IP network, and wherein the second IP address is

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compliant with a second protocol distinct from the first protocol implemented by the second IP network (see Chin fig. 6 item 614, col. 11 lines 10-30 and col. 35-41; first IPV4 is implement by the first network and second IPV6 is implemented by the second network). At the time of the invention it would have been obvious to a person of ordinary skills in the art to combine the teaching of Chin with that of Asano. Motivation for doing so would have been to facilitate and enable interconnectivity communications between IPV4 network and IPV6 network.

Although Asano-Chin discloses the invention substantially as claimed, they do not explicitly disclose forwarding packets without using network address translation and without mapping the first IP address to the second IP address.

Borella teaches a system for requesting globally unique address and receiving in order create combination address consisting of source address and the received unique address without using network address translation or mapping (see Borella, fig. 7, 9, col. 11 lines 30-38 and col. 14 lines 22-27). At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the teachings of Borella with that of Asano-Chin. Motivation for doing so would have been to provide an alternative method of requesting and forwarding packets without any assistance of NAT or address mapping.

7. Claims 2-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asano et al (Asano), U. S. Application Publication No. 2003/0185236 in view of Chin et

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al. (Chin), U. S. Patent No. 7277453 as applied to claim 1 above, and further in view of Donahue et al. (Donahue), U. S. Patent No. 7020720.

Regarding claim 2, although Asano-Chin discloses the invention substantially as claimed, it does not explicitly disclose wherein the request comprises a dynamic host configuration protocol (DHCP) request.

Donahue teaches DHCP server that is responsible for responding to host's request by returning IP address to the host (see e.g. col. 6 line 64-col. 7 line 3). At the time of the invention it would have been obvious to a person of ordinary skills in the art to combine the teachings of Donahue with that of Asano. Motivation for doing so would have to automate the assigning of IP address to requesting hosts.

Regarding claim 3, Asano-Chin-Donahue teaches wherein the subscriber device comprises an IP version 4 (IPv4) device, the method further comprising: encapsulating the DHCP request in an Ipv6 packet for routing the DHCP request through the first IP network (see e.g. Fig. 1 and paragraph [0059]). The same motivation utilized in the combination of claim 2, equally applies as well to claim 3.

Regarding claim 4, Asano-Chin-Donahue teaches wherein the subscriber device comprises an Ipv6 device, the method further comprising: modifying the DHCP request to include a two-hop Ipv6 routing header for routing the DHCP request through the first IP network (see e.g. paragraphs [0050]-[0051]). The same motivation utilized in the

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combination of claim 2, equally applies as well to claim 4.

Regarding claim 5, Asano-Chin-Donahue teaches wherein the two-hop Ipv6 routing header comprises an IP address of the edge device as a first hop address and an IP broadcast address of the DHCP request as a second hop address, the IP address of the edge device being associated with the first IP network (see e.g. paragraph [0046]). The same motivation utilized in the combination of claim 2, equally applies as well to claim 5.

Regarding claim 6, although Asano-Chin discloses the invention substantially as claimed, it does not explicitly disclose wherein providing the second IP address to the subscriber device is further based on a DHCP response routed through the first IP network from the edge device to the subscriber device.

Donahue teaches providing the second IP address to the subscriber device is further based on a DHCP response routed through the first IP network from the edge device to the subscriber device (see e.g. col. 5 lines 30-51, 57-col. 6 line 6). At the time of the invention it would have been obvious to person of ordinary skills in the art to combine the teachings of Donahue with that of Asano-Chin. Motivation for doing so would have been Motivation for doing to facilitate the communication and routing of packets from one network to another thus permitting multiple network interconnectivity.

Regarding claim 7, although Asano-Chin discloses the invention substantially as



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claimed, it does not explicit disclose wherein the two-hop Ipv6 routing header of the DHCP response comprises the first IP address of the subscriber device as a first hop address and the second IP address of the subscriber devices as a second hop address.

Donahue teaches wherein the two-hop Ipv6 routing header of the DHCP response comprises the first IP address of the subscriber device as a first hop address and the second IP address of the subscriber devices as a second hop address (see e.g. col. 2 line 55-col. 3 line 13). At the time of the invention it would have been obvious to a person of ordinary skills in the art to combine the teachings of Donahue with that of Asano-Chin. The same motivation utilized in the combination of claim 6, equally applies as well to claim 7.

8. Claims 8-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asano et al (Asano), U. S. Application Publication No. 2003/0185236 in view of Donahue et al. (Donahue), U. S. Patent No. 7020720 and further in view of Borella, U. S. Patent No. 6697354.

Regarding claim 8, Asano discloses a method for addressing data packets of a subscriber for transmission from an originating device over a broadband access link through an Internet protocol (IP) network to a destination network (see e.g. paragraph [0052]-[0059]; packet transmission from Ipv6 terminal to Ipv4 terminal).

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Although Asano discloses the invention substantially as claimed, it does not explicitly disclose allocating a first subscriber IP address to the originating device, the first subscriber IP address being associated with the IP network; receiving a dynamic host configuration protocol (DHCP) request from the originating device, the DHCP request being associated with the first subscriber IP address; sending the DHCP request through the IP network to a destination device in the destination network using an IP network address of the destination device, the destination device forwarding the DHCP request to a DHCP server; receiving a DHCP response from the DHCP server, through the destination device, the DHCP response including a second subscriber IP address from the DHCP server, the second subscriber IP address being associated with the destination network; and sending the DHCP response through the IP network to the originating device using the first subscriber IP address, enabling the originating device to obtain the second subscriber IP address from the DHCP response and address subsequent data packets using the first subscriber IP address and the second subscriber IP address.

Donahue teaches allocation of IP address to hosts in private network by utilizing Dynamic Host Configuration Protocol server wherein a user transmits IP address request through the gateway that in turn forwards the request to DHCP/NAT server. The DHCP server looks into the packet to identify the source and destination hosts. Thereafter, the first IP address is return to the originating host as well as IP address of the second host. Thus permitting packet communication between a source device with the desired destination device possibly located in two different networks (see e.g. col. 5

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lines 30-64, col. 6 lines 36-50 and line 64-col. 7 line 41). At the time of the invention it would have been obvious to a person of ordinary skills in the art to combine the teaching of Donahue with that of Asano. Motivation for doing to facilitate the communication and routing of packets from one network to another thus permitting multiple network interconnectivity.

Although Asano-Chin discloses the invention substantially as claimed, they do not explicitly disclose forwarding packets without using network address translation and without mapping the first IP address to the second IP address.

Borella teaches a system for requesting globally unique address and receiving in order create combination address consisting of source address and the received unique address without using network address translation or mapping (see Borella, fig. 7, 9, col. 11 lines 30-38 and col. 14 lines 22-27). At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the teachings of Borella with that of Asano-Chin. Motivation for doing so would have been to provide an alternative method of requesting and forwarding packets without any assistance of NAT or address mapping.

Regarding claim 9, Asano-Donahue teaches wherein the IP network comprises an IP-version 6 (IPv6) network, and in which the first subscriber IP address and the IP network address of the destination device comprise IPv6 addresses (see e.g. Asano paragraph [0046] and [0049]).

Regarding claim 10, the limitation of this claimed has already been addressed (see claim 3 above).

Regarding claim 11, the limitations of this claim have already been addressed (see claim 6 above).

Regarding claim 12, the limitations of this claim have already been addressed (see claim 8 above).

Regarding claim 13, the limitations of this claim have already been addressed (see claim 7 above).

Regarding claim 14, the limitations of this claim have already been addressed (see claim 5 above).

Regarding claim 15, the limitations of this claim have already been addressed (see claim 4 above).

Regarding claim 16, Asano-Donahue teaches wherein allocating the first subscriber IP address comprises matching a previously allocated network IPv6 address of the subscriber (see e.g. paragraph [0049]).

Regarding claim 17, the limitations of this claim have already been addressed (see claims 1-3, above).

Claim 18 list all the same elements of claim 8, but in system form rather than method form. Therefore, the supporting rationale of the rejection to claim 8 applies equally as well to claim 18. The same motivation utilized in the combination of claim 8, equally applies as well to claim 18.

Regarding claims 19-25, the limitations of these claims correspond to the already addressed limitation of claim 9-15 thus the supporting rationale of the rejections to claims 9-15 applies equally as well to claims 19-25.

Regarding claim 26, although Asano discloses the invention substantially as claimed, it does not explicitly disclose wherein the second IP network comprises one of an Internet service provider network and a private network.

Donahue teaches wherein the second IP network comprises one of an Internet service provider network and a private network (see e.g. Fig. 3 and col. 4 line 64-col. 5 line 29). At the time of the invention it would have been obvious to a person of ordinary skills in the art to combine the teaching of Donahue with that of Asano-Chin. Motivation for doing so would have been to allowing privately exchange of information among

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employee of a company while giving the ability to communicate out side client by utilizing the public Internet.

### ***Prior Art of Record***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please refer to form PTO-892 (Notice of Reference Cited) for a list of relevant prior art.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOHAMED IBRAHIM whose telephone number is (571)270-1132. The examiner can normally be reached on Monday through Friday from 7:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William C. Vaughn, Jr. can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mohamed Ibrahim/  
Examiner, Art Unit 2444  
/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2444